

## Response

### A. Introduction

Claims 1-15 were pending prior to entry of the preceding amendments, and claims 16-23 are pending now. The Examiner finally rejected the previously-pending claims under 35 U.S.C. § 103(a), contending their subject matter is unpatentable over the combined disclosures of U.S. Patent Nos. 4,995,062 to Schulza-Ganzlin, et al. and 5,382,798 to Mouyen. Without conceding the appropriateness of any of the final rejections, Applicant has cancelled claims 1-15 without prejudice and submitted new claims addressing selected aspects of prior claim 5. Because Applicant believes these new claims define subject matter patentable over the Schulza-Ganzlin and Mouyen patents and other materials of reference, he requests that the claims be allowed.

### B. The Claims

#### *1. Independent Claim 16*

As drafted, independent claim 16 details an *intra-buccal* sensor (*i.e.* a sensor lying in the mouth) including means, comprising multiple cylindrical rods positioned side-by-side, “for *both* (i) *guiding . . . x-rays* emerging from [a] tooth substantially along . . . longitudinal axes of the cylindrical rods and (ii) *transforming the guided x-rays into light rays. . .*” The claim further indicates that *the cylindrical rods themselves participate in both actions*, reciting:

the cylindrical rods being produced from a material enabling both the guiding and the transformation of the x-rays . . . .

As noted in the application,

the construction and the disposition of the cylindrical rods . . . permit the X-rays, which penetrate into these rods . . . , to be perfectly guided. The result is only a very weak dispersal of X-rays into the surrounding space, and this permits virtually all of the X-rays, which have traversed the tooth and its surrounding area, to be transformed into light rays, and hence permits the sensitivity of the apparatus to be increased very substantially as compared with apparatus of the same type from known prior art.

See Application at p. 7.

By contrast, *no such structure is disclosed* in either the Schulza-Ganzlin patent or the Mouyen patent. The Schulza-Ganzlin patent, for example, *fails to suggest using any intra-buccal sensor whatsoever, much less one with cylindrical rods performing both X-ray guidance and transformation*. Indeed, the Schulza-Ganzlin patent affirmatively teaches away from using an intra-buccal sensor, describing in detail an *extra-buccal* detector arrangement 4. See Schulza-Ganzlin, col. 2, ll. 42-54; Fig. 1.

Further, the Schulza-Ganzlin patent contains no single element set adapted both to guide and transform X-rays, illustrating only scintillator layer 9 prior to transmission of radiation through fiber optics 10. See id., col. 3, ll. 1-11. The Mouyen patent is likewise, utilizing *separate* tubular guides (for the guiding function) and scintillator elements (for the transformation). Although the scintillator elements of the Mouyen patent are housed in the tubular guides, *they nevertheless are separate components*. See Mouyen, col. 2, ll. 32-44.

Applicant believes it inappropriate for the Examiner to combine the teachings of the Schulza-Ganzlin and Mouyen patents. However, even were one skilled in the art somehow able to substitute the tubular guides of the Mouyen patent for the scintillator layer of the Schulza-Ganzlin patent, *the result would not be the*

*structure recited in claim 16*. Instead, the result would be *an extra-buccal sensor* in which the tubular guides themselves would continue to perform *only* the guiding function for the X-rays, and *not also the transformation function as claimed*. For at least this reason, Applicant requests that claims 16-23 be allowed.

## *2. Dependent Claims*

Various dependent claims provide separate bases for patentability. As one example, claim 22 refers to the rods having length between 80 to 200  $\mu\text{m}$ . The tubular guides of the Mouyen patent, by contrast, are discussed as being between 0.5-4 mm long, see Mouyen, col. 2, ll. 61-64, more than twice as long--and possibly as much as fifty times as long--as those referenced in claim 22. Applicant thus submits that additional bases for patentability also exist for various of the claims.

## **Petition for Extension of Time**

Pursuant to 37 C.F.R. § 1.136(a), Applicant petitions the Commissioner for all extensions of time needed to respond to the Office Action.

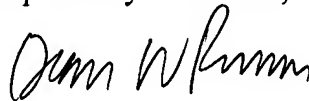
## **Fees**

Enclosed is a check for \$950.00 for the petition fee. Applicant believes no other fee presently is due. However, if Applicant's belief is mistaken, the Commissioner is authorized to debit Deposit Account No. 11-0855 for any additional fee due as a consequence of Applicant's submission of this paper.

**Conclusion**

Applicant requests that the Examiner allow claims 16-23 and that a patent containing these claims issue in due course.

Respectfully submitted,



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